

clear while coagulating a tumor near the internal urethral opening, the irrigating stream through the cystoscope should be directed toward the coagulating site.

The author, at a meeting of the American Urological Association at Toronto June 1, 1932, demonstrated, as a preliminary report, an instrument constructed by himself that would accomplish this work. Since then prominent cystoscope manufacturers utilized this idea and by combining several of their own devices with the author's plan, somewhat modified, of manipulating a retrograde electrode, they have recently constructed a new cystoscope that is admirably adapted for coagulating around the vesicle neck. Not only is this instrument well adapted for attacking tumors and lesions of the bladder heretofore inaccessible with any cystoscope, but it is also a most useful instrument as an adjunct to prostatic resection in controlling hemorrhage where bleeding has been most difficult to control, *i. e.*, in the vicinity of the urinary bladder neck.

Flood Building.

INFANT MASTOIDITIS IN RELATION TO GASTRO-INTESTINAL DISTURBANCE*

REPORT OF CASES

By A. A. GILMAN, M. D.

AND

SOL MAISLER, M. D.

San Francisco

THE following cases are reported to show the close relationship between middle ear, mastoid infections, and gastro-intestinal disturbances. We hold with those who believe that mastoid infection is the etiologic factor of many cases of gastro-intestinal intoxication, excluding those cases occurring in epidemic form. Our first case we offer as a type of positive evidence, the child having been operated upon with a resultant recovery. The second and third cases present negative evidence, no operations having been performed, deaths following and our diagnosis being substantiated by autopsy findings.

REPORT OF CASES

CASE 1.—R. D., male infant, age two months. Admitted to hospital on December 15, 1931, with a history of vomiting during the preceding six days which was projectile in type after each feeding, and of having been constipated for the same duration of time.

Past history, negative. Birth weight, eight pounds three ounces. Had been breast fed during night only, having been on an artificial formula during day. Examination at time of admission was negative; weight at that time was nine pounds six ounces.

During the first ten days in the hospital the child was placed on a formula consisting of equal parts of milk and water with some karo. He did not gain any weight on the above formula, but the vomiting decreased to one or two times daily and was nonprojectile. The stools were apparently normal. During that time an x-ray of the chest, a gastro-intestinal series and tuberculins were negative, but the child ran an afternoon temperature of 100 degrees without any apparent cause. On the 24th of December (his tenth day in the hospital) his temperature rose to 101 de-

grees and there was a suggestion of a neck rigidity, so a lumbar puncture was performed, but the spinal fluid was normal. After the puncture his temperature dropped to normal and remained so until January 7, 1932. With his rise of temperature he suddenly began to have numerous greenish semi-liquid stools and began to lose weight, which dropped down to eight pounds six ounces on the 27th of December. Because of the marked diarrhea, the formula was changed to skimmed lactic acid milk.

After the 27th of December the vomiting decreased to about once daily but the diarrhea persisted, his stools being about eight or nine in number and of a semi-liquid consistency, and his weight increased to eight pounds fifteen ounces.

On January 7, 1932, his temperature rose to 100.8 degrees and his weight dropped to eight pounds five ounces; examination at that time was negative. Because of his loss of weight and his poor turgor, subcutaneous fluids were started. His temperature continued to remain elevated, running as high as 101.6 degrees that week, diarrhea unimproved, and vomiting about the same. On January 12, 1932, his ear drums were opened and some pus found. The ears drained for about one day. In spite of the drums having been opened he continued to grow worse, so on January 14, 1932, he was transfused, receiving 80 cubic centimeters of whole blood intravenously. After the transfusion his temperature became higher, his weight lower, and the diarrhea persistent. Because his ears did not drain well, the drums were again opened on the 16th of January. At that date his temperature was 103.4 degrees; his weight went down to eight pounds two ounces; the carbon dioxide of his blood was about five per cent. The child looked very sick.

On January 18, 1932, the child was again transfused, 120 cubic centimeters of whole blood being given intravenously; at that time the child was practically in extremis. Immediately following the transfusion, a bilateral mastoidectomy was performed, pus and bone necrosis being found over each mastoid antrum. Cultures of the pus taken from the antra during the operation showed streptococcus and bacilli of the *B. proteus* group.

Following the operation the temperature remained elevated until January 22, 1932, or for about four days, when it returned to normal; the vomiting stopped and the stools began to decrease in number, became softer and yellow in color, so that by January 23, 1932, they were apparently normal and have remained so. For several days after the operation 10 per cent glucose and 4 per cent soda bicarbonate solutions were given intravenously as well as saline under the skin. His weight began to rise, so that on January 31, 1932, it had reached nine pounds fifteen ounces. On January 26, 1932, the carbon dioxide content of his blood was 48 per cent. At the present time the child is in very good condition and is almost ready to be discharged.

CASE 2.—S. C., age four months. Admitted to hospital on January 18, 1932, with a history of vomiting and diarrhea of two days' duration. The onset of his illness being rather sudden. Past history was essentially negative.

Physical examination at time of admission is as follows: The child was extremely dehydrated, the anterior fontanelle sunken, his eyes sunken, lips were cherry red in color, the ear drums were dull and bulging, his cry was very feeble, heart and lungs were negative, the liver was three centimeters below the costal margins, the spleen was not palpable. His admission weight was eleven pounds fourteen ounces; his temperature was 100 degrees.

Shortly after admission his temperature rose to 104 degrees, both ear drums were then opened and pus obtained. During his first day in the hospital the child did not vomit but took very little fluids, therefore intraperitoneal and subcutaneous fluids were given. Stools were very green in color and semi-liquid, but only four in number. The day after admission he became worse; he began to vomit all fluids

*From the Departments of Pediatrics and Otolaryngology, University of California Hospital.

given, while his stools increased in number and became more liquid. His blood chlorids that day was 782 milligrams. The child's condition continued to become progressively worse in spite of all treatment, and he died on January 21, 1932.

His autopsy findings were negative except for pus, with very little bony change in the left mastoid antrum.

CASE 3.—P. G., age five weeks. Admitted to hospital on January 18, 1932, as a boarder. Physical examination and past history were negative. Child was breast fed until date of admission. Weight at that time was eight pounds five ounces. The child was placed on a formula consisting of equal parts of milk and water with some karo. The child did fairly well on the above formula, having gained five ounces in weight, until January 25, 1932. He had been retaining all his feedings and his stools were normal in number, color, and consistency.

On January 26, 1932, the stools increased in number, became greenish in color and of a semi-liquid consistency. His weight dropped and he also began to vomit an occasional feeding. The formula was changed, but the child's condition was progressively becoming worse. The vomiting increased, his stools became more frequent and more liquid. The temperature did not rise until January 30, 1932, when it rose to 101 degrees. Examination on January 29 revealed reddened drums, and on the next day the drums were beginning to bulge, so they were opened and pus obtained from both sides. The temperature dropped after the incision of the drums, but the child did not improve. He became extremely dehydrated, began to vomit all feedings, his stools were very frequent and watery. He died on the evening of January 31, 1932. No autopsy was performed, but a postmortem examination of the mastoids revealed some pus, with a slight amount of bony changes.

San Francisco City and County Hospital.

DEPRESSED FRACTURES OF THE ZYGOMA

By F. S. BLYEAT, M. D.
Los Angeles

FRACTURES of the zygoma are often overlooked and, as they should be treated early, the cardinal points involved will be briefly discussed.

The zygoma has four processes: frontosphenoidal, temporal, orbital, and maxillary. The temporal process is long, narrow and thin, and forms an arch when united posteriorly with the zygomatic process of the temporal bone. Fracture occurs chiefly through the temporal, frontal or orbital processes, the body of the bone then being depressed.

Practically all cases are due to trauma such as automobile or airplane accidents, fist-fights, or falls.

The chief signs are: flatness of the cheek eminence, often anesthesia of the upper lip, trismus due to pressure on the coronoid process of the mandible, blood from the nose if injury to the antrum has occurred, and sometimes when the arch is broken a distinct dimple is visible. X-rays are of great value, especially when there is much swelling, the Watters position, as used for the maxillary sinuses, being the best to show this bone.

The treatment is early surgical care. In most early cases excellent results can be obtained by means of the following intra-oral operation. An

incision, two centimeters long, is made in the bucco-alveolar fold above the upper last two molars; then by blunt dissection a flat, broad elevator is placed beneath the beginning of the temporal arch and the bone raised upward and outward. Iodoform gauze is used for drainage and if packed rather tightly may aid in holding the bone in its new position.

In some cases it may be necessary to enter the antrum by way of the canine fossa and then raise the bone.

External operations are done by many. In some cases a combination of the two methods can be used. The more commonly used external operations will be briefly described. A screw porte is forced through the skin into the outer surface of the bone and the fracture reduced by upward and outward elevation. Another method is to use an instrument shaped like a large, heavy towel clip forceps, putting one blade on the orbital process and the other through the skin into the outer surface of the bone and then raising the bone to place. For depressions of the arch some make an incision along the border of the arch and raise the depressed process by use of blunt elevators. Occasionally a heavy aneurysm needle can be passed around the beginning of the arch and the fracture reduced.

Good end-results are obtained in practically all cases where reduction is done early.

1136 West Sixth Street.

QUARTAN MALARIA *

REPORT OF CASE

TREATMENT WITH QUINIDIN SULPHATE IN A
PATIENT HYPERSENSITIVE TO QUININ

By A. M. ROBERTS, M. D.

AND

C. W. LEACH, M. D.
San Francisco

QUARTAN malaria and hypersensitiveness to quinin, both quite uncommon conditions, have recently been observed in the same individual.

QUARTAN MALARIA—OCCURRENCE

Infection by *Plasmodium malariae* is quite uncommon in all parts of the world, and particularly so in California. Only one report of the disease in this state¹ has appeared in the literature although a moderate number of cases have been observed. In large series of cases of malaria seen by Craig² and Thayer and Hewetson,³ infections by the quartan parasite have been noted in only one of five or six hundred cases. The disease is said by Bass⁴ to be prevalent in certain areas of the United States, as in northeastern Louisiana, but there is no definite substantiating evidence of this on record. From published reports, the Indian Medical Service^{5,6,7} has encountered quartan infection more frequently than any other group of observers.

* From the Department of Medicine, Stanford University School of Medicine, San Francisco.